

Example 7.1 Generate the transition density of a time-inhomogeneous GQD

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```
library(DiffusionRgqd)
GQD.remove()

G0 <- function(t){2*(10+sin(2*pi*(t-0.5)))}
G1 <- function(t){-2}
Q1 <- function(t){0.25*(1+0.75*(sin(4*pi*t)))}

states    <- seq(5,15,1/10)
initial   <- 8
Tmax      <- 5
Tstart    <- 1
increment <- 1/100

M <- GQD.density(Xs=initial,Xt=states,s=Tstart,t=Tmax,delt=increment)

library(rgl)
open3d(windowRect=c(50,50,640+50,50+640),zoom=0.95)
persp3d(x=M$Xt,y=M$time,z=M$density,col=3,box=F,xlab='State (X_t)',ylab=
'Time(t)',zlab='Density f(X_t|X_s)')
```